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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,017	01/30/2004	Takeo Tanaami	000803 Div I	7966
7590 MOONRAY KOJIMA BOX 627 Willimastown, MA 01267		EXAMINER WRIGHT, PATRICIA KATHRYN		
		ART UNIT 1797		
		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/769,017

Applicant(s)

TANAAMI, TAKEO

Examiner

P. Kathryn Wright

Art Unit

1797

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33, and 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on July 01, 2008 and December 08, 2008 have been entered.

Status of the Claims

2. Any objection/rejection not repeated herein has been withdrawn by the Office. Claims 33 and 35-38 are under prosecution.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 35-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 recites "a microscope". This claim is confusing and indefinites since it omits the essential structural cooperative relationships of elements, amounting to a gap between the necessary structural connections. See MPEP § 2172.01. How is the "microscope" and the other elements of the invention (i.e., light source, optical detector) in claim 33 related?

Also note that claim 35 now recites the reader elements of claim 33. Claim 35 depends on claim 33. This is confusing and indefinite. As currently written claim 35 includes all the elements of claim 33 plus an additional light source, single optical detector, etc. For the purposes of examination, the second light source, single optical detector, etc., in claim 35 have not been considered. The Examiner recommends Applicant remove these new limitations and structurally link the microscope to the elements of claim 33.

Claim 36 recites wherein the spectroscopic information is separated from noise. The claims are directed to an apparatus (i.e., biochip reader). No structural elements are recited in these claims only methods of processing the spectroscopic information. Moreover, there is no means for performing these methods. Applicant is reminded that only structural language is determinative of the metes and bounds of an apparatus claim, not method steps.

Clarification and/or correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 33 and 35-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogino (US Patent no. 5,422,712).

Ogino discloses a biochip reader for reading image data of a plurality of biological samples provided a flat flow in a two dimensional manner on the surface of a biochip (flow cell 16), see Fig. 10.

Specifically, Ogino teaches a biochip reader comprising a light source 10 for irradiation excitation light simultaneously on the plurality of samples (particles) in the flow cell and causing the cells to emit fluorescent light different in wavelength from the excitation light (see embodiment of Fig. 10 and col. 8, line 53- col. 9, line 19).

The Ogino biochip reader includes a single optical detector 70 for detecting a plurality of fluorescent light emitted by the plurality of samples (particles) as spectroscopic information (see Fig. 10).

Ogino also teaches a means comprising a dichromatic mirror 24. The mirror meets the limitation of the "means" in claim 33. Nevertheless, Ogino also teaches a spectroscopic means 28 comprising a prism, a lattice (grating) disposed between the sample and the optical detector 70 which causes the fluorescent light emitted by the samples to be separated and developed by a processor 72 as spectroscopic information at different locations according to wavelength and detected by the optical detector at the different locations on the single optical detector 70.

For the purposes of examination, the recitation to the plurality of biological sample provided as spots or an array in a two dimensional manner on a surface of a biochip has not been given patentable weight because the recitation occurs in the

preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the structural limitations to the biochip reader are able to stand alone.

Moreover, even if the plurality of samples are positively recited in the claim it would not serve to patentably distinguish the device since the inclusion of material worked upon by a structure being claimed is of no significance in determining patentability of an apparatus claim. See MPEP 2115.

Regarding claim 35, Ogino teaches a microscope (i.e., scanning confocal optical system) for fluorescence measurements (see Fig. 10).

As to claim 36, the biochip reader of Ogino also includes an image intensifier 30 which separates the spectroscopic information from noise using spectra and regression method.

Regarding claim 37, Ogino teaches a slit or aperture 68 (see col. 8, lines 53 et seq. and Fig. 10)

With respect to claim 38, Ogino teaches flat flow 64 of sample in the flow cell (see col. 8, line 53 et seq.) Thus, light source of Ogino comprises means for directing the excitation light to be irradiated onto the outside of the flow cell which is opposite to the interior side wherein the plurality of samples (particles) are arranged.

7. Claims 33, and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Kauvar et al. (US Patent no. 6,492,125), hereinafter "Kauvar".

Kauvar discloses a biochip reader for imaging data of a plurality of samples provided as spot or an array in two dimensional manner on a surface of biochip (XYZ microscope stage in Fig. 1).

Specifically, Kauvar teaches a biochip reader comprising:

a light source (ARC lamp) for irradiating excitation light simultaneously on the plurality of samples on the biochip surface and for causing the sample to emit fluorescent light different in wavelength from the excitation light;

a single optical detector (CCD array) for detecting a plurality of fluorescent light emitted by the plurality of samples as a spectroscopic information at different location according to wavelength and to be detected by the single optical detector in a two dimensional manner at different locations on the single optical detector; and

a means which comprises a polychromatic mirror (i.e., dichromatic mirror), see Fig. 1. Note given the alternative language of claim 33, the mirror of Kauvar meets the limitation of the "means" in the claim. Nevertheless, Kauvar also teaches a grating and Fourier spectrometer (see col. 2, lines 61-65). Thus, a single optical detector may be employed using appropriate filters or other means, such as a prism or grating, to permit a single detector to perceive separately multiple signals, such as different wavelength ranges, see for example, col. 2, line 54 et seq.

With respect to claim 35, the apparatus depicted by Kauvar in Figure 1 comprises a microscope (i.e., scanning confocal optical system) for fluorescence measurements.

Regarding claims 36-37, the biochip reader of Kauvar separates the spectroscopic information from noise using known spectra and regression method and an aperture (see col. 8, lines 20 et seq.)

Please note, that the sample is not positively recited in the claims. Moreover, even if the plurality of samples arranged in an array are positively recited in the claim it would not serve to patentably distinguish the device since the inclusion of material worked upon by a structure being claimed is of no significance in determining patentability of an apparatus claim. See MPEP 2115.

As to claim 38, Kauvar teaches a biochip formed from a transparent substrate to allow passage of the excitation light and the fluorescent light, wherein the excitation light is irradiated from the bottom side of the biochip (XYZ Microscope Stage) opposite the top side on which the plurality of samples are disposed (see Fig. 1.)

Response to Arguments

8. Applicant's arguments filed December 08, 2008 have been fully considered but they are not persuasive.

In response to the previous rejection of claims 33-38 under 35 U.S.C. 102(b) as being anticipated by Ogino (US Patent no. 5,422,712), Applicant argues that Ogino fails to show certain features of applicant's invention, however, it is noted that the features upon which applicant relies (i.e., CCD device or photodiode array, circular slit) are not

recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to the previous rejection of claims 33-38 under 35 U.S.C. 102(e) as being anticipated by Kauvar (US Patent no. 6,492,125), Applicant argues that Fig.1 does not show any grating.

The Examiner points Applicant's attention to the alternative language used in the claim. Claim 33 recites [a] means comprising a grating, or dichromatic mirror or Fourier spectrometer. Therefore, given the alternative language of claim 33, the mirror of Kauvar meets the limitation of the "means" in the claim. Nevertheless Kauvar also teaches a grating and Fourier spectrometer when a single detector is employed to permit the detector to perceive separately multiple singles, such as different wavelength ranges (see col. 2, lines 61-65).

Also contrary to Applicant's assertion, Kauvar does teach a biochip formed from a transparent substrate to allow passage of the excitation light and the fluorescent light, wherein the excitation light is irradiated from the bottom side of the biochip (XYZ Microscope Stage) opposite the top side on which the plurality of samples are disposed (see Fig. 1.)

Therefore, for the reasons set forth above, all pending claims remain rejected.

Conclusion

9. No claims are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Kathryn Wright whose telephone number is (571)272-2374. The examiner can normally be reached on Monday thru Thursday, 9 AM to 6 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. Kathryn Wright/
Examiner, Art Unit 1797